



Leishmaniasis

*LTC Glenn Wortmann, MD
Associate Program Director, ID
Fellowship
Infectious Diseases Service
Walter Reed Army Medical Center*

Leishmaniasis

Objectives



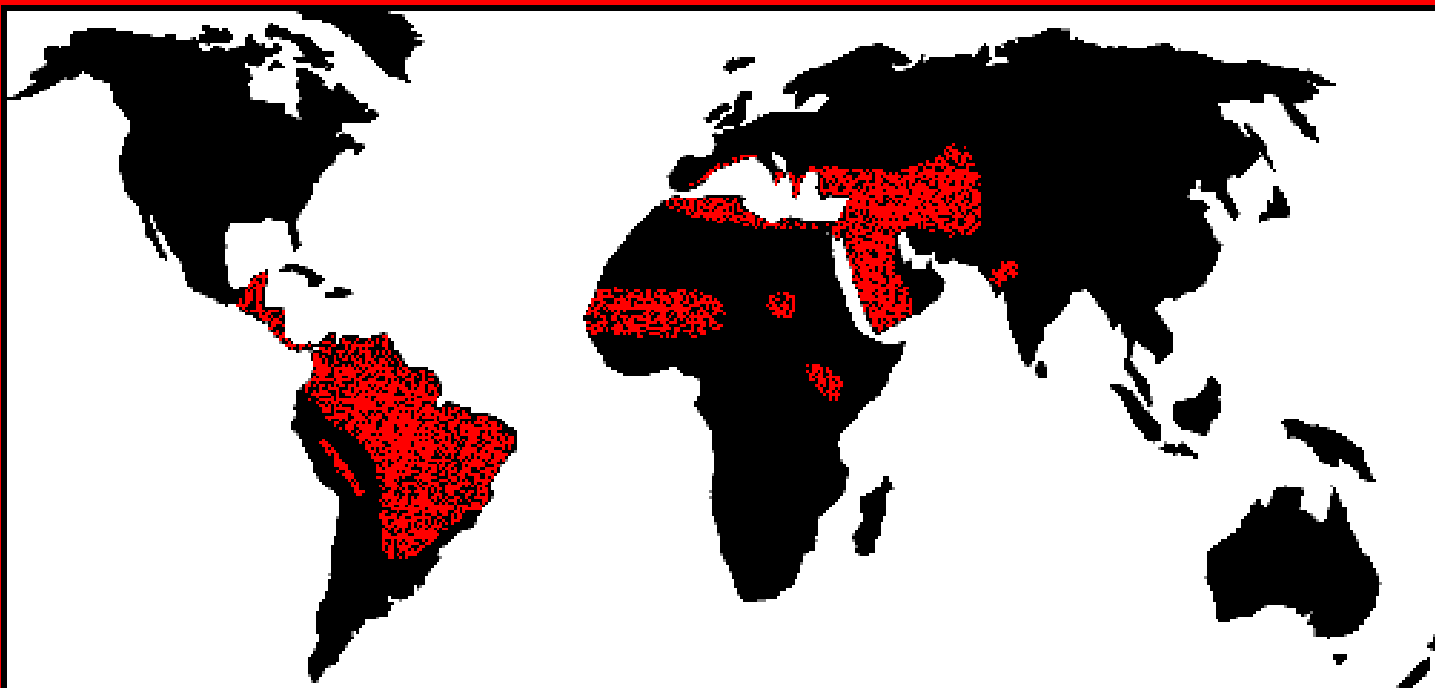
- ♠ Define Leishmaniasis
- ♠ Describe the clinical presentation
- ♠ Describe diagnostic procedures
- ♠ Discuss available treatments for Leishmaniasis

Leishmaniasis



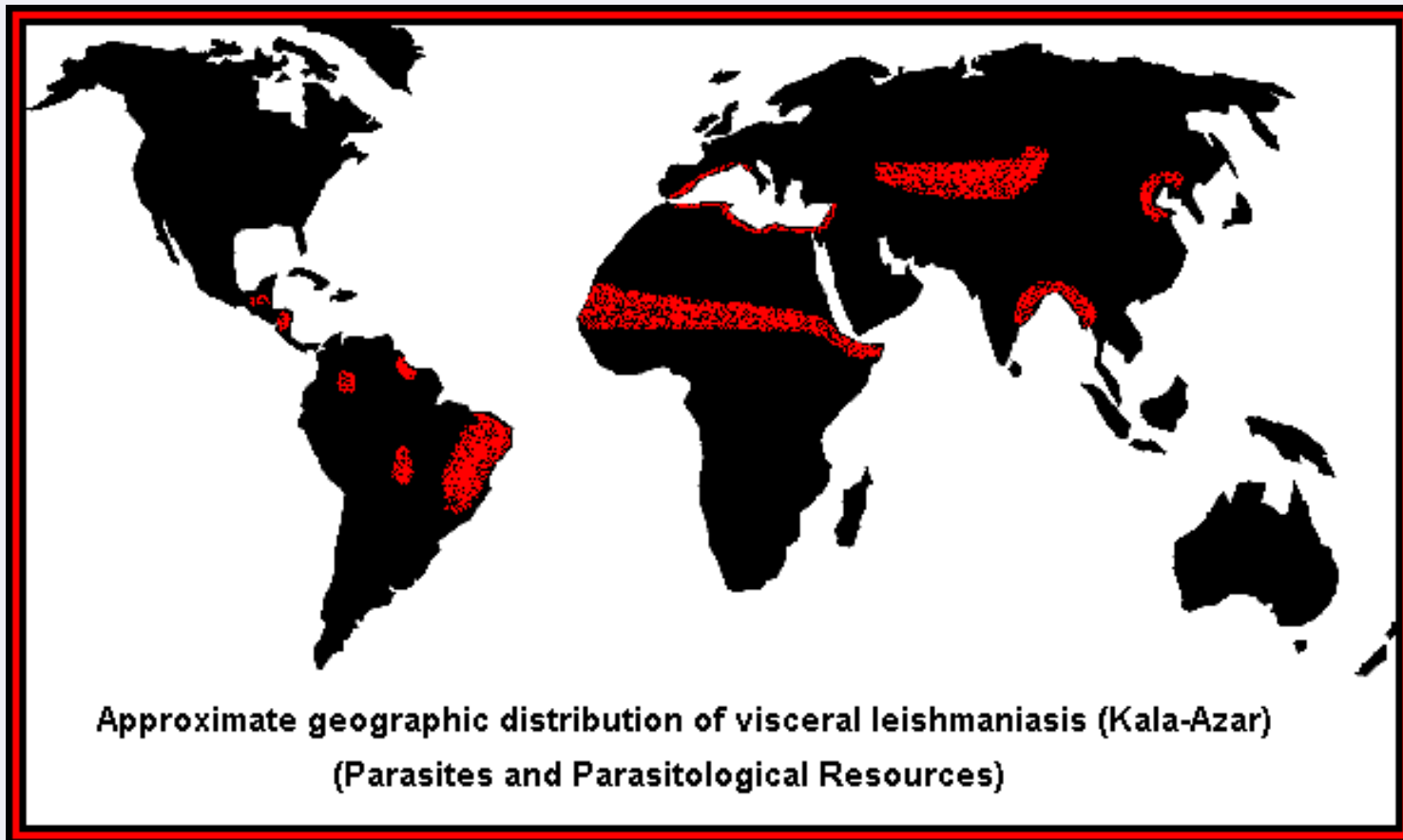
- ♠ Group of diseases caused by infection with one of the protozoan parasites of the genus *Leishmania*
- ♠ Designated one of the five most important diseases worldwide by the World Health Organization
- ♠ 20 million people infected worldwide

Geographic Distribution *Cutaneous Disease*

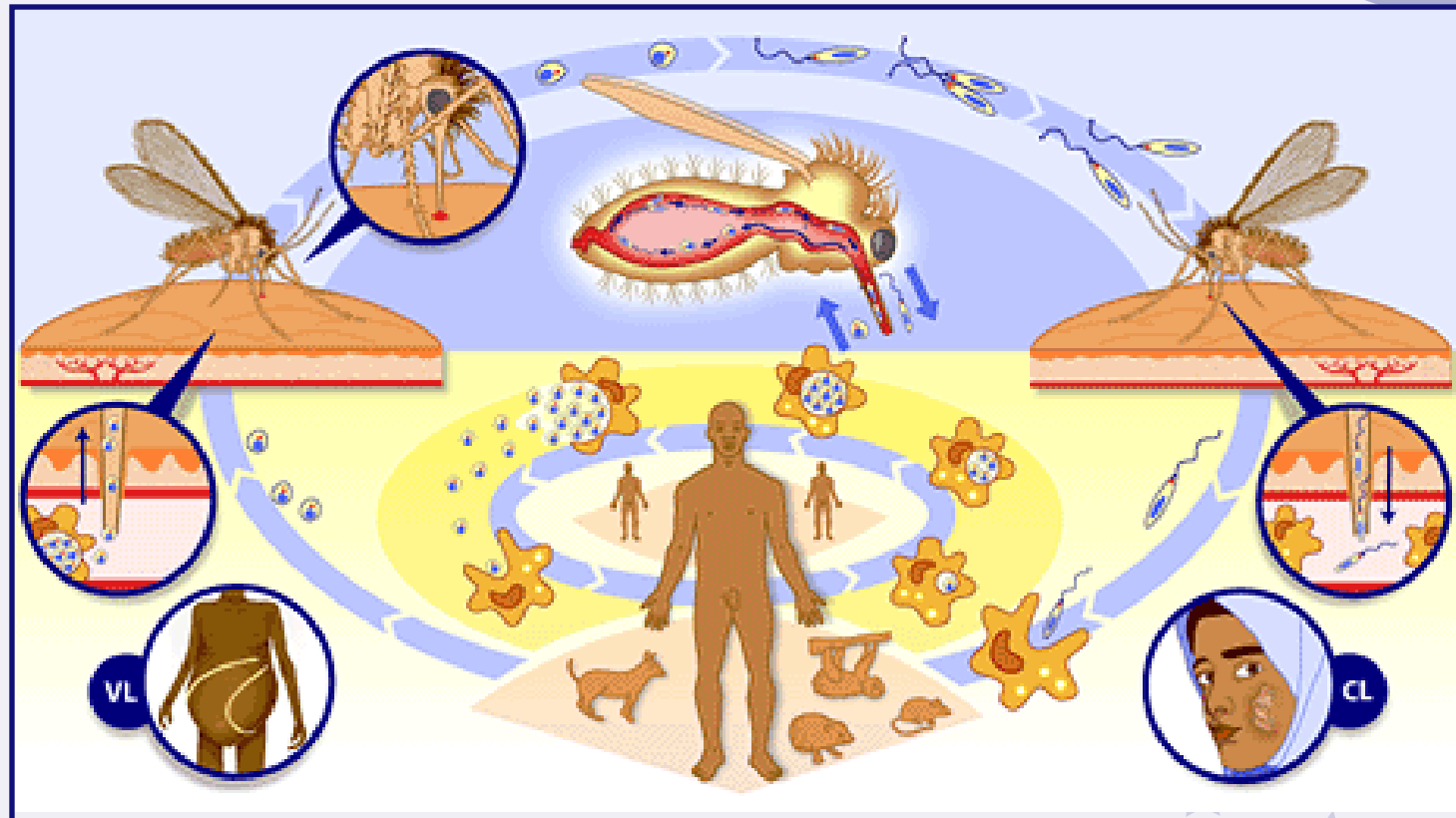


Approximate Geographic Distribution of Cutaneous Leishmaniasis
(Parasites and Parasitological Resources)

Geographic Distribution *Visceral Disease*



Life Cycle



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The Vector



Courtesy of Dr. Ed Rowton, WRAIR

Clinical Presentation

- ♠ Cutaneous disease
- ♠ Mucocutaneous leishmaniasis (Espundia)
- ♠ Visceral disease (Kala-azar)

Localized Cutaneous Leishmaniasis



- ♠ Baghdad boil, Aleppo evil, Chiclero's ulcer
- ♠ Commonly presents as a non-healing ulcer
- ♠ Incubation period ~40 days, but can range from days to a year

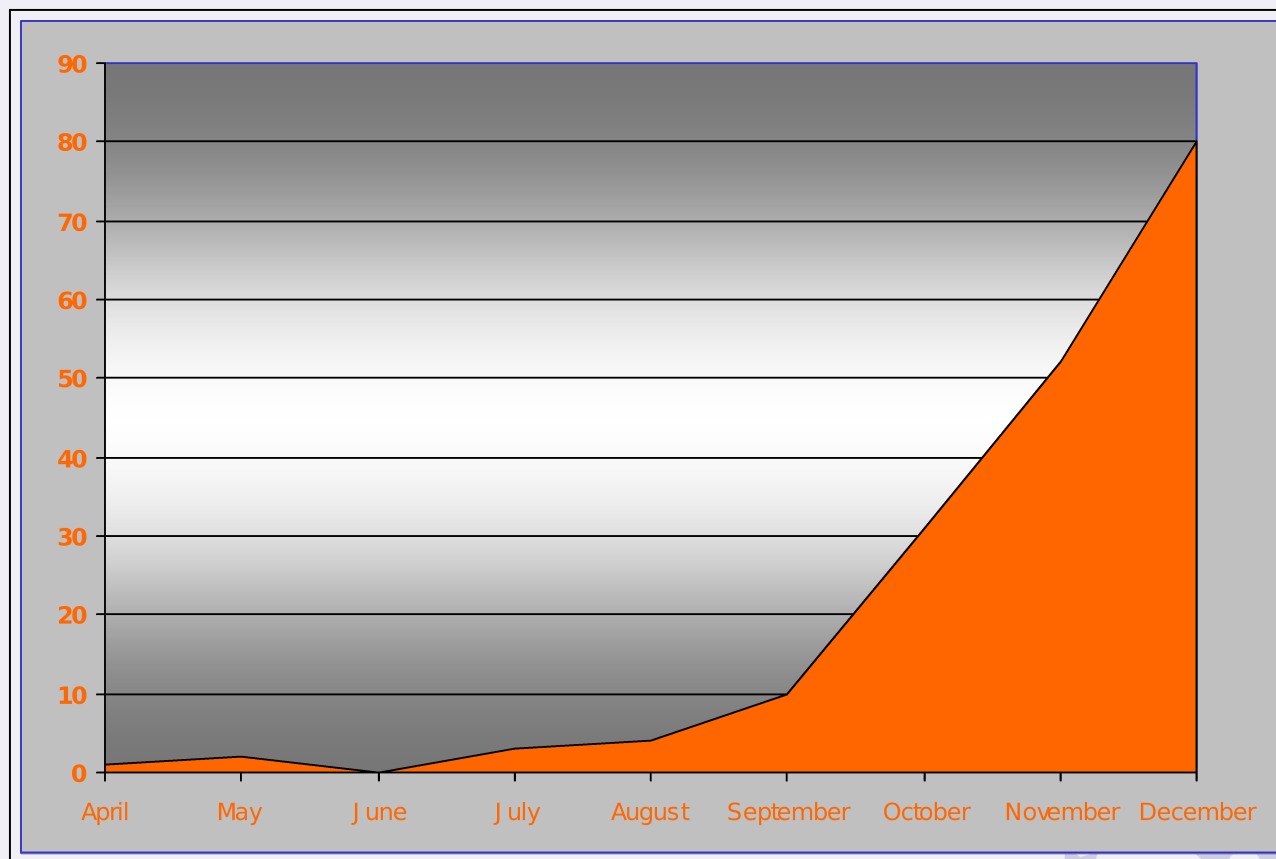
Cutaneous Leishmaniasis



“In some cities infection is so common and so inevitable that normal children are expected to have the disease soon after they begin playing outdoors, and visitors seldom escape a sore as a souvenir. Since one attack gives immunity, Oriental sores appearing on an adult person in Baghdad brands him as a new arrival...”

Introduction to Parasitology, 1944

Number of OEF/OIF Patients



Localized Cutaneous Leishmaniasis



Localized Cutaneous Leishmaniasis (cont.)



Localized Cutaneous Leishmaniasis (cont.)



Localized Cutaneous Leishmaniasis (cont.)



Mucocutaneous Leishmaniasis



- ♠ Espundia
- ♠ Most commonly reported in the New World with *L. braziliensis* and *L. panamensis*
- ♠ 1-3% of patients of all infected patients

Espundia



Visceral Leishmaniasis



- ♠ Kala-azar (Hindi for black sickness)
- ♠ Fever
- ♠ Enlarged liver and spleen
- ♠ Anemia
- ♠ Usually affects children
- ♠ Increasingly reported in HIV patients

Visceral Leishmaniasis (cont.)



Diagnosis



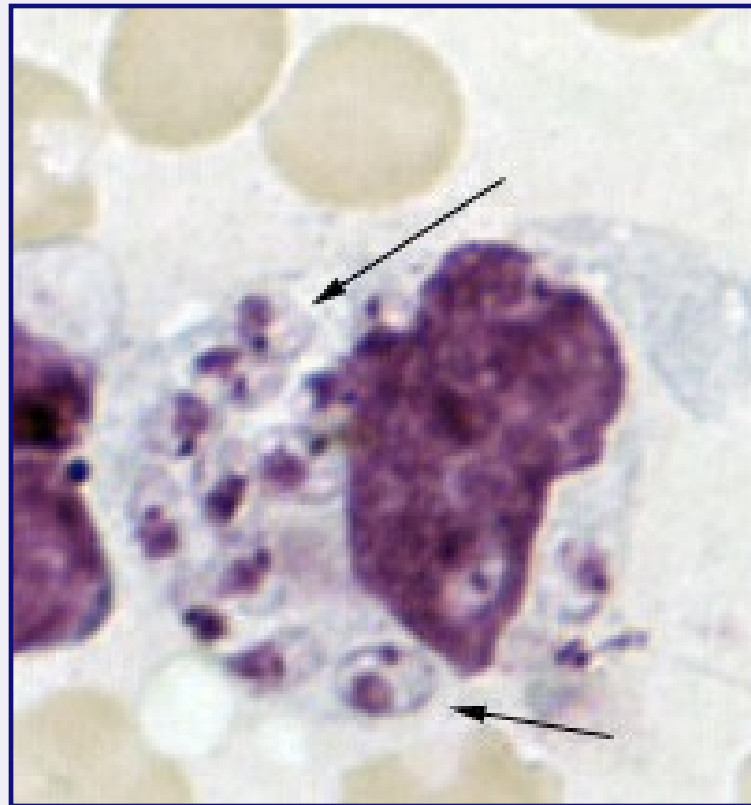
♠ Cutaneous Disease

- Tissue sample (scraping, aspirate or punch biopsy) for smear and culture
 - Sensitivity 75-90%
 - PCR

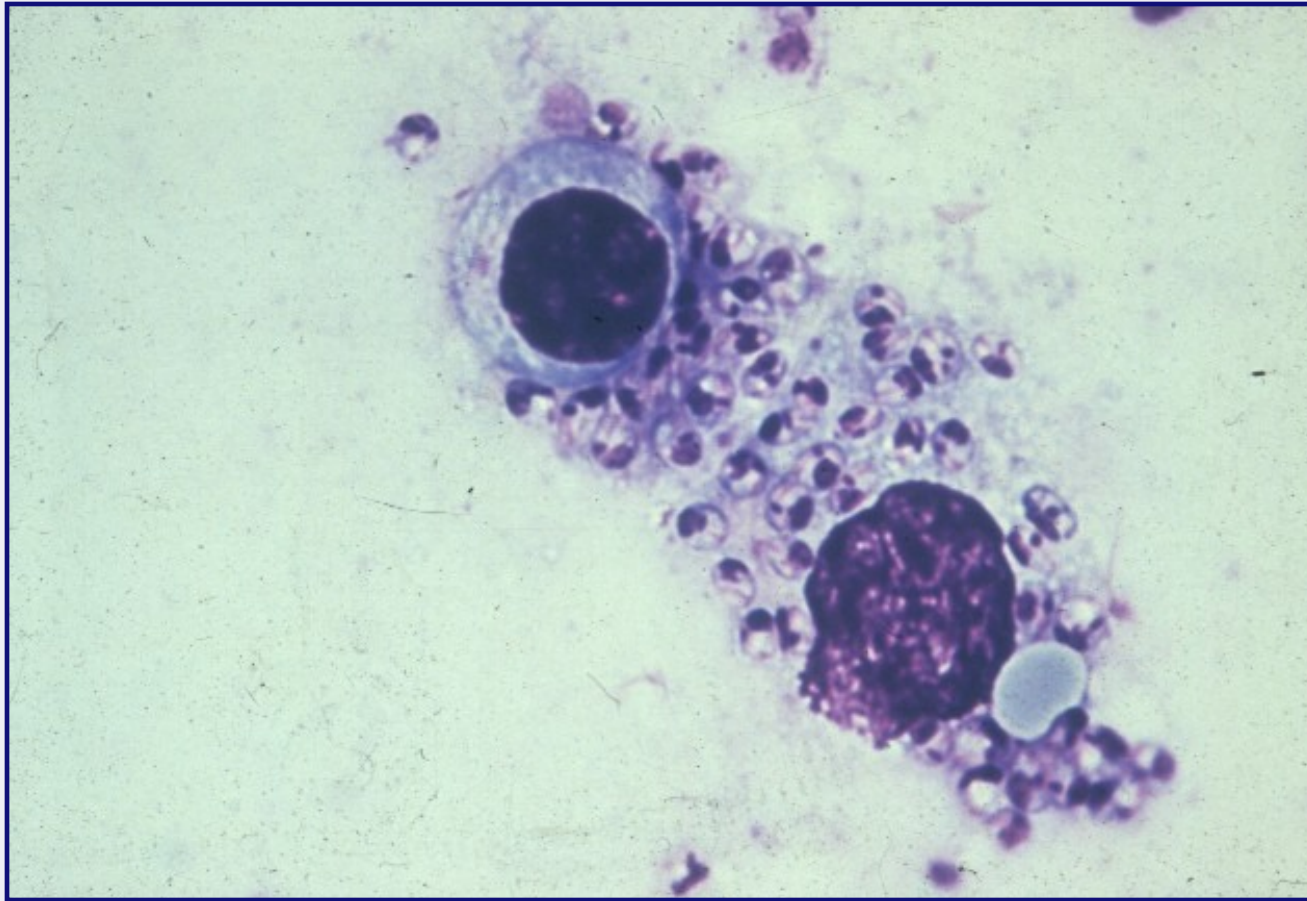
♠ Visceral Disease

- Bone marrow biopsy or splenic aspirate for smear and culture
- Serology (rk39, various ELISAs)
- PCR

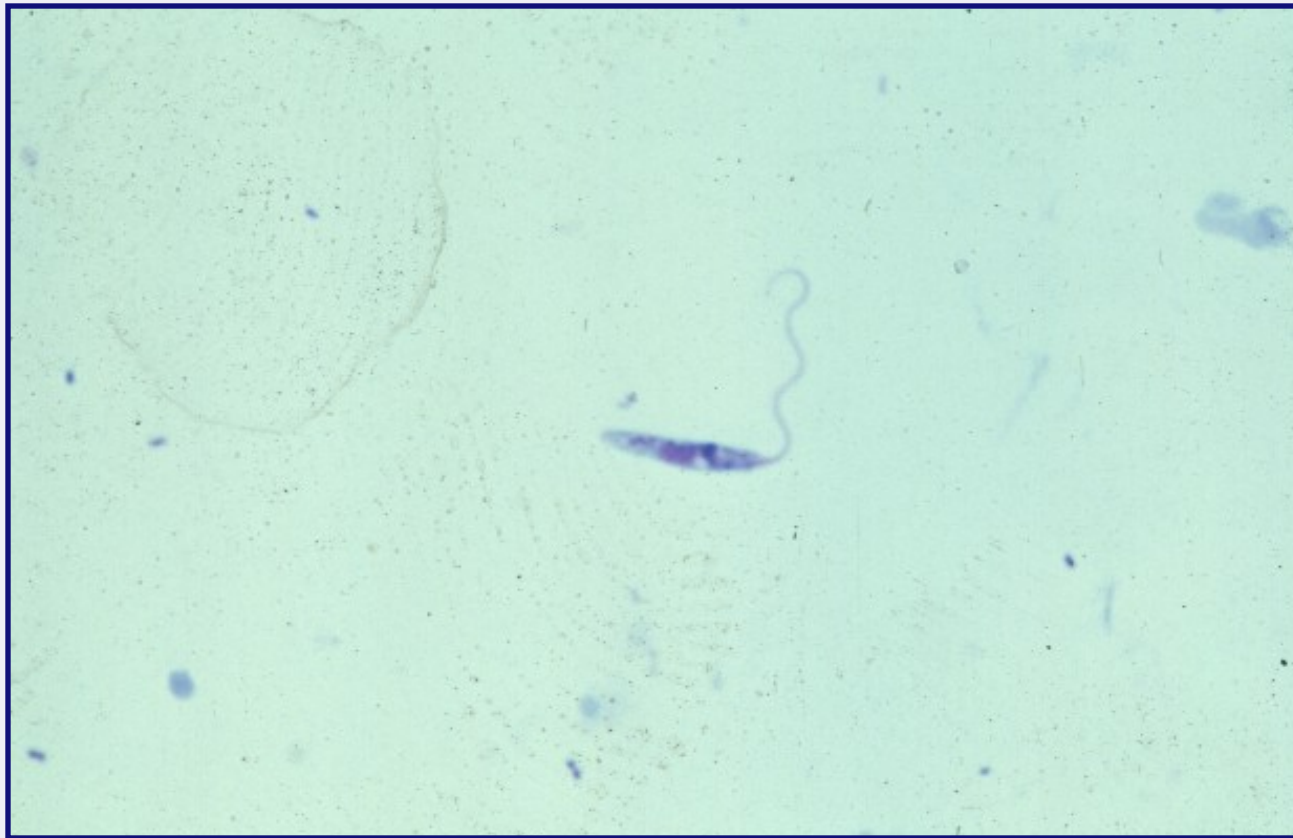
Diagnosis Histopathology



Diagnosis Histopathology (cont.)



Diagnosis Culture



Treatment-Cutaneous Disease



- ♠ Most lesions go away in 5-6 months even without therapy
- ♠ Local therapy (freezing, burning) for small lesions
- ♠ Fluconazole once a day for 6 weeks
 - ~80% effective at 3 months (versus 34% in the placebo group)

Treatment-Cutaneous Disease (cont.)



- ♠ Sodium stibogluconate (Pentostam)
 - Not licensed by the FDA
 - Extensively used in other countries
 - 20mg/kg/d IV for 10-20 days
 - >90% cure
 - Elevations in pancreas enzymes (97%), joint pains (58%) and liver irritation (67%)

Treatment-Visceral Disease



♠ AmBisome (liposomal amphotericin)

- 3mg/kg/d on days 1-5, 14 and 21
- Only drug approved by the FDA

♠ Pentostam

- 20mg/kg/d for 28 days

Summary

- ♠ Most likely presentation of leishmaniasis in a returning soldier would be cutaneous leishmaniasis
- ♠ Chief complaint: non-healing skin lesion

Summary (cont.)



- ♠ Suggest empiric routine care (antibiotics, wound care)
- ♠ If no improvement after 2 weeks, then refer to WRAMC for evaluation
- ♠ WRAMC assets:
 - Diagnosis
 - AFIP (Geographic Infections Branch)
 - WRAIR (*Leishmania* culture and PCR)
 - Treatment
 - IND for Pentostam
 - Infectious Disease Clinic, WRAMC 202-782-6740

Questions, Information, Assistance



DoD Deployment Health Clinical Center
Walter Reed Army Medical Center
Building 2, Room 3G04
6900 Georgia Ave, NW
Washington, DC 20307-5001

202-782-6563
DSN:662

Provider Helpline
1-866-559-1627

E-mail: pdhealth@na.amedd.army.mil
Website: www.PDHealth.mil

Patient Helpline
1-800-796-9699